

MAR 11 2002

## SEQUENCE LISTING

# 4

<110> Ingram, Lonnie O  
Zhong, Shengde

<120> METHODS AND COMPOSITIONS FOR SIMULTANEOUS  
SACCHARIFICATION AND FERMENTATION

<130> BCI-024CP

<140> 09/885,297

<141> 2001-09-19

<150> 60/214,137

<151> 2000-06-26

<150> 60/219,913

<151> 2000-07-21

<160> 17

<170> PatentIn Ver. 2.0

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<223> Description of Artificial Sequence:primer

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A  
(pages 1-19)

#4/A

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&lt;211&gt; 27

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence:primer

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27

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<223> Description of Artificial Sequence:primer

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<222> 9476-11544  
<223> n=a,c,g or t

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<223> nucleotide positions 1-1451 encodes promoter

<220>  
<223> nucleotide positions 1452-2735 encodes celZ gene

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<223> nucleotide positions 4916-5776 encodes bla gene

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<223> nucleotide positions 7061-8251 encodes tet gene

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<223> nucleotide positions 9476-11544 encodes target sequence from *K. oxytoca*

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<222> (4916)..(5776)

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<222> (7061)..(8251)

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gcatggacat cccagacatt gggattgaac ctgtttgggt tcatgctttt gattacgact 180  
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gagattcatt t atg cct ctc tct tat tcg gat aac cat cca gtc atc gat 1490
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            1              5              10

agc caa aaa cac gcc cca cgt aaa aaa ctg ttt cta tct tgt gcc tgt 1538
Ser Gln Lys His Ala Pro Arg Lys Lys Leu Phe Leu Ser Cys Ala Cys
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tta gga tta agc ctt gcc tgc ctt tcc agt aat gcc tgg gcg agt gtt 1586
Leu Gly Leu Ser Leu Ala Cys Leu Ser Ser Asn Ala Trp Ala Ser Val
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gag ccg tta tcc gtt agc ggc aat aaa atc tac gca ggt gaa aaa gcc 1634
Glu Pro Leu Ser Val Ser Gly Asn Lys Ile Tyr Ala Gly Glu Lys Ala
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aaa agt ttt gcc ggc aac agc tta ttc tgg agt aat aat ggt tgg ggt 1682
Lys Ser Phe Ala Gly Asn Ser Leu Phe Trp Ser Asn Asn Gly Trp Gly
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ggg gaa aaa ttc tac aca gcc gat acc gtt gcg tcg ctg aaa aaa gac 1730
Gly Glu Lys Phe Tyr Thr Ala Asp Thr Val Ala Ser Leu Lys Lys Asp
              80              85              90

tgg aaa tcc agc att gtt cgc gcc gct atg ggc gtt cag gaa agc ggt 1778
Trp Lys Ser Ser Ile Val Arg Ala Ala Met Gly Val Gln Glu Ser Gly
              95              100              105

ggt tat ctg cag gac ccg gct ggc aac aag gcc aaa gtt gaa aga gtg 1826
Gly Tyr Leu Gln Asp Pro Ala Gly Asn Lys Ala Lys Val Glu Arg Val
          110              115              120              125

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Val Asp Ala Ala Ile Ala Asn Asp Met Tyr Val Ile Ile Asp Trp His
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tca cat tct gca gaa aac aat cgc agt gaa gcc att cgc ttc ttc cag 1922
Ser His Ser Ala Glu Asn Asn Arg Ser Glu Ala Ile Arg Phe Phe Gln
              145              150              155

gaa atg gcg cgc aaa tat ggc aac aag ccg aat gtc att tat gaa atc 1970
Glu Met Ala Arg Lys Tyr Gly Asn Lys Pro Asn Val Ile Tyr Glu Ile
              160              165              170

tac aac gag ccg ctt cag gtt tca tgg agc aat acc att aaa cct tat 2018
Tyr Asn Glu Pro Leu Gln Val Ser Trp Ser Asn Thr Ile Lys Pro Tyr
              175              180              185

gcc gaa gcc gtg att tcc gcc att cgc gcc att gac ccg gat aac ctg 2066
Ala Glu Ala Val Ile Ser Ala Ile Arg Ala Ile Asp Pro Asp Asn Leu
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225 230 235	
gcg gga acc cat ggt gag tca tta cgc act aaa gcc cgc cag gcg tta	2210
Ala Gly Thr His Gly Glu Ser Leu Arg Thr Lys Ala Arg Gln Ala Leu	
240 245 250	
aat aac ggt att gcg ctt ttc gtc acc gag tgg ggc gcc gtt aac gcg	2258
Asn Asn Gly Ile Ala Leu Phe Val Thr Glu Trp Gly Ala Val Asn Ala	
255 260 265	
gac ggc aat ggc gga gtg aac cag aca gat acc gac gcc tgg gta acg	2306
Asp Gly Asn Gly Gly Val Asn Gln Thr Asp Thr Asp Ala Trp Val Thr	
270 275 280 285	
ttc atg cgt gac aac aac atc agc aac gca aac tgg gcg tta aat gat	2354
Phe Met Arg Asp Asn Asn Ile Ser Asn Ala Asn Trp Ala Leu Asn Asp	
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Lys Ser Glu Gly Ala Ser Thr Tyr Tyr Pro Asp Ser Lys Asn Leu Thr	
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Glu Ser Gly Lys Ile Val Lys Ser Ile Ile Gln Ser Trp Pro Tyr Lys	
320 325 330	
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Met Ala Pro Pro Leu Thr Asn Arg Pro Gln Pro Thr His Arg Gln Thr	
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Ala Asp Cys Cys Asn Ala Asn Val Tyr Pro Asn Trp Val Ser Lys Asp	
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Trp Ala Gly Arg Gln Arg Leu Ile Thr Lys Gln Ala Asn Arg Ser Ser	
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aca aag gga acc tgt ata ccg caa act ggt aca ctt cat ccg ttc cgg	2690
Thr Lys Gly Thr Cys Ile Pro Gln Thr Gly Thr Leu His Pro Phe Arg	
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Ala Ala Ile Pro Pro Gly His Arg Leu Val Ala Val Thr Asn	
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aag ccc tcc cgt atc gta gtt atc tac acg acg ggg agt cag gca act 5716  
 Lys Pro Ser Arg Ile Val Val Ile Tyr Thr Thr Gly Ser Gln Ala Thr  
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 Lys His Trp  
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